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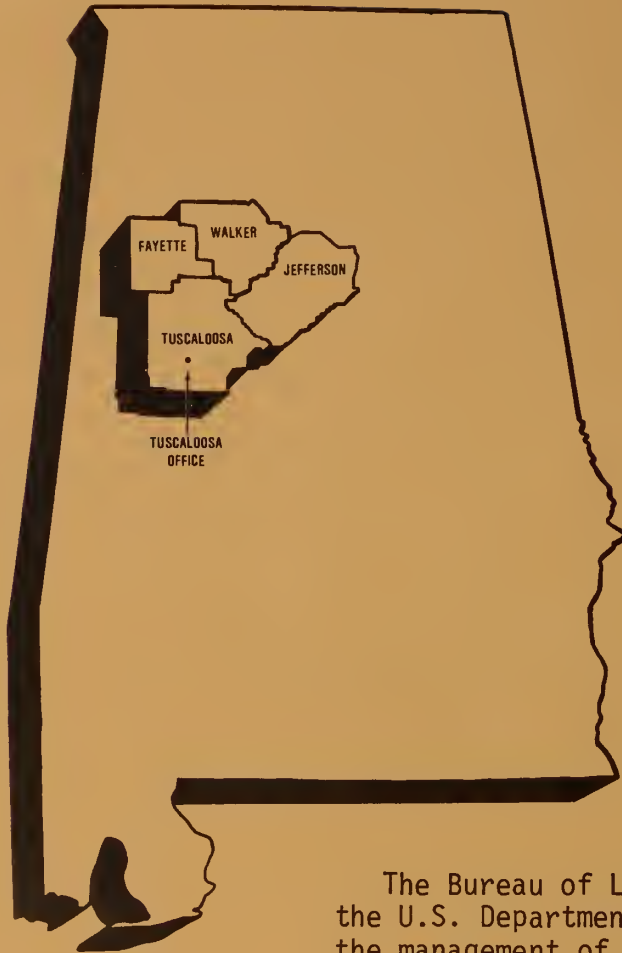
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Part 1 - Text

SUMMARY OF THE NORTH CENTRAL ALABAMA LAND USE ANALYSIS



Published as part of
The Federal Coal Management Program
U.S. Department of the Interior
Bureau of Land Management
August 1979



The Bureau of Land Management (BLM), an agency of the U.S. Department of the Interior, is responsible for the management of 473 million acres of public lands, and an additional 310 million acres where mineral rights have been reserved to the Federal Government.

BLM's Eastern States Office carries out BLM activities in the 31 states adjoining or east of the Mississippi, where BLM surface is limited to about 60,000 acres and several thousand unsurveyed islands, but where Federal mineral rights total 39.1 million acres.

In all it does, BLM strives for the orderly management and use of public resources along the principles of multiple use and sustained yield. It seeks to educate the public about the issues involved in land use decisions, and to involve the public in the planning process by holding public meetings and by appealing for comments from all interested parties.

Eastern States Office
Bureau of Land Management
350 South Pickett Street
Alexandria, Virginia 22304
Telephone: (703) 235-2840

Tuscaloosa Office
Bureau of Land Management
1315 McFarland Boulevard East
Tuscaloosa, Alabama 35401
Telephone: (205) 759-5441

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NORTH CENTRAL
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LAND USE ANALYSIS

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I. INTRODUCTION

A. Background

In four North Central Alabama counties--Walker, Fayette, Tuscaloosa, and Jefferson--the United States holds title to approximately 70,500 acres of mineral rights. In most cases the mineral involved is coal--a resource of expanding importance to the Nation.

In the spring of 1977, the Bureau of Land Management (BLM) of the Department of the Interior opened an office in Tuscaloosa. Staffed by a team of resource specialists--a geologist, a community planner, a hydrologist, a forester, a realty specialist, a recreation planner, and a wildlife biologist--the Tuscaloosa Office was given the task of producing a Land Use Analysis of the four-county area. Information gathered during the analysis would help determine the course of Federal minerals management in the region.

On June 4, 1979, the Secretary of the Interior established a new Federal coal management program, in which Federal coal reserves would be carefully screened and evaluated by the Department preparatory to leasing. In Alabama, the Land Use Analysis then nearing completion in Tuscaloosa became the first step in the process.

In the course of the Land Use Analysis, the natural, social, and economic resources of the study area were inventoried and analyzed, either by BLM staff members or researchers contracted by the Tuscaloosa Office. The present and potential uses of the resources were evaluated, as well as the conflicts that might arise among those uses due to any future management decisions involving the federally-owned minerals in

the area. BLM's management opportunities in the four counties are less varied than those in most other BLM planning situations, because in this case, BLM manages only the minerals in the area. The 70,500 acres of surface belong to private land owners.

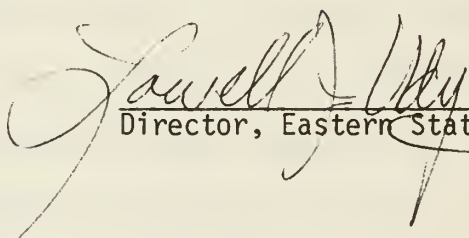
The goal of the Land Use Analysis, as it related specifically to the Federal coal management program, was to recommend the tracts of federally-owned minerals that would be brought forward for further consideration for leasing. Not only would such tracts have to be of medium or high potential for coal development, but also would have to have undergone a series of screens that would eliminate certain areas from consideration. One screen was a set of unsuitability criteria approved by the Secretary when he established the coal management program. Another was the legally-required consultation with qualified surface owners. And still another was the multiple-use decision process that is a part of all BLM land use planning.

Those tracts of federally-owned minerals brought forward for further consideration for leasing are portrayed on Map F. Their determination constitutes the end product of the North Central Alabama Land Use Analysis, and the starting point for further Federal coal management activities in the State. The process that led to their determination, and the steps that will now follow, are summarized in the following pages. The full text of the Land Use Analysis, along with all studies that were performed in producing it, are available for public inspection at the addresses appearing inside the front cover.


The public was invited to involve itself in the Land Use Analysis at every stage of its production. Staff members at the Tuscaloosa

Office gave open house presentations on their areas of investigation, and made visits to civic and industry groups to brief them on BLM activities in the region. Public meetings were held to receive comments during the five Land Use Analysis stages, and press releases were issued at numerous points along the way.

BLM is grateful to the public for its participation in the Land Use Analysis, and also to the State of Alabama, with which BLM worked closely through a Memorandum of Understanding.



Director, Eastern States



Manager, Tuscaloosa Office

B. A Brief Profile of the North Central Alabama Planning Area

The counties of Tuscaloosa, Fayette, Walker, and the northwest half of Jefferson comprise the North Central Alabama Land Use Analysis area. It is located in the western part of the Warrior Coal Basin. The planning area is primarily rural, with the population centers of Birmingham, Tuscaloosa and Jasper around the periphery.

Over 73 percent of the land is in forests, and land use is dominated by forestry. Although the soils of the region are generally somewhat poor, agriculture and gardening are integral features of the economy and rural lifestyle in the area.

The local economy is based largely on manufacturing and trade. Resource exploitation, however--primarily coal and timber and their associated industries--plays a major role in employment. Both surface and underground coal mining have been important parts of the local scene for over fifty years.

The interested reader may wish to consult the Land Use Analysis Phases I and II, prepared by the Tuscaloosa staff for a detailed examination of all aspects of the present situation in the planning area. These address the many environmental and socio-economic aspects of the North Central Alabama Land Use Analysis area.

II. THE UNSUITABILITY CRITERIA

A. The Criteria in General

Before coal leasing can proceed on Federal lands (as well as on areas where the government owns only the coal rights, as in North Central Alabama), the Department of the Interior is required to apply a series of unsuitability criteria. The criteria eliminate certain areas from all or certain types of coal mining. The requirement was established in Section 522 of the Surface Mining Control and Reclamation Act of 1977, in order to ensure that leasing will proceed in a manner that is uniform and environmentally sound. When the Secretary of the Interior established the new Federal coal management program, he also determined just what the unsuitability criteria would be. Table 1 lists the twenty criteria he selected, and indicates their applicability to the North Central Alabama study area.

The criteria, in their interim form, as well as the applicability of the criteria to the study area, were presented to the public at two public meetings in March 1979. No comments on the application of the criteria have been received by the Tuscaloosa Office from the public or other agencies. If, during future coal management activities, any of the criteria are found to apply because of new information or changes in resource situations, they will be fully applied at that time.

B. Criteria Applicable to the Study Area

Of the twenty unsuitability criteria, only four proved to be applicable to the study area: No. 2, Rights-of-Way and Easements;

TABLE 1

Unsuitability Criteria and their Applicability
to the Study Area

Criterion Number	Criterion Title	Applicability To Study Area
1	Federal Land Systems	No
2	Rights-of-Way and Easements	Yes
3	Buffer Zones Along Rights-of-Way	Yes
4	Wilderness Study Areas	No
5	Scenic Areas	No
6	Lands Used for Scientific Studies	No
7	Historic Lands and Sites	No
8	Natural Areas	No
9	Federally Listed Endangered Species	Yes
10	State Listed Endangered Species	No
11	Bald and Golden Eagle Nests	No
12	Bald and Golden Eagle Roost and Concentration Areas	No
13	Falcon Cliff Nesting Sites	No
14	Migratory Birds	No
15	State Resident Fish and Wildlife	No
16	Floodplains	Yes
17	Municipal Watersheds	No
18	National Resource Waters	No
19	Alluvial Valley Floors	No
20	State Proposed Criteria	No ¹

¹Criterion 20 depends on initiatives from the State of Alabama.
To date, no input has been received.

No. 3, Buffer Zones Along Rights-of-Way and Adjacent to Communities and Buildings; No. 9, Federally Listed Endangered Species; and No. 16, Floodplains. These four criteria, along with their exceptions and exemptions and the results of their application to the study area, are discussed in detail below. While their application has resulted in the exclusion of surface mining from certain areas, no lands have been designated unsuitable for underground mining. The latter can be designated only after lease applicants have submitted mining plans; only then can the surface effects of potential underground mining be assessed.

CRITERION 2: RIGHTS-OF-WAY AND EASEMENTS

Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial or other public purposes or for agricultural crop production on Federally owned surface, shall be considered unsuitable.

Exceptions: A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that:

- 1) All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement, or
- 2) The right-of-way or easement was granted for mining purposes; or
- 3) The right-of-way or easement was issued for a purpose for which it is not being used; or

- 4) The parties involved in the right-of-way or easement agree in writing, to leasing; or
- 5) It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

Exemption: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Application of the Criterion: All of the lands falling under this criterion in the study area are rights-of-way for high voltage power lines and gas pipe lines. These are shown on Map A, as well as on USGS topographic maps. No exceptions apply to this criterion in North Central Alabama. The application of this criterion without exception excluded 277 acres, with an estimated coal tonnage of 0.872 million tons, from further consideration for surface mining will have no major impact on the local economy or coal supply. Their exclusion will be formalized when this land use analysis is reviewed and approved.

Application of the Exceptions:

1) No lands in the study area have been designated unsuitable for underground mining.

2-5) No rights-of-way or easements have been granted for the existing facilities over Federal minerals. None of these exceptions

have been applied because certain legal questions have arisen as to the status of these unpermitted rights-of-way over Federal minerals. Also, there is no compelling reason to disrupt these rights-of-way for surface mining.

CRITERION 3: BUFFER ZONES ALONG RIGHTS-OF-WAY AND ADJACENT TO COMMUNITIES AND BUILDINGS

Federal lands affected by Section 522(e)(4), and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of any public building, school, church, community or institutional building or public park or within 300 feet of an occupied dwelling.

Exceptions: A lease may be issued for lands:

- 1) Used as mine access roads or haulage roads that join the right-way for a public road;
- 2) For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;
- 3) For which owners of occupied buildings have given written permission to mine within 300 feet of their buildings.

Exemptions: The application of this criterion is subject to valid existing rights and does not apply to surface coal operations existing on August 3, 1977.

Application of the Criterion: Applications of the public roads buffer zone criterion--without exception--excluded 634 acres, containing approximately 1.4 million tons of coal, from further consideration for surface mining. The exclusion of these lands from further consideration for surface mining should have little or no impact on the local economy or the local coal supply. The areas are indicated on Map A, as well as on USGS topographic maps which are maintained in the Tuscaloosa Office. Due to time and other limitations, as well as the small scale of the base map, not all public facilities, cemeteries, and occupied dwellings have been inventoried. A complete inventory of these areas will be completed, and buffer zones established, during preparation of the environmental impact statement.

Application of Exceptions: If a conflict with mining occurs, the described rights-of-way could be relocated by permit from the Office of Surface Mining Reclamation and Enforcement. Stipulations protecting such rights-of-way will be incorporated into a lease if relocation is impractical.

All dwellings indicated are on privately-owned surface. The owners of these dwellings could give permission to have the buildings moved or to permit mining near them. Map B indicates those areas where the unsuitability criteria apply following the application of exceptions.

Stipulations:

1. If it is impractical to relocate the right-of-way of a public highway, mining will be prohibited within that right-of-way and

within a 100-foot buffer zone from the outside line of the right-of-way.

2. The lessee will consult with all owners of occupied dwellings and maintain or, with the owner's written consent, adjust the designated 300-foot buffer zone.

CRITERION 9: FEDERALLY LISTED ENDANGERED SPECIES

Federally designated critical habitat for threatened or endangered plant and animal species, and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

Exception: A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Application of the Criterion: A total of 760 acres of potentially minable coal has been excluded by application of the threatened and endangered species unsuitability criterion. The areas are shown on Map A. The estimated amount of coal excluded is 2.39 million tons. Designation of these areas as unsuitable for mining ensures the protection of scientifically-documented areas where red-cockaded woodpeckers occur. The areas were delineated by Dr. Jerome Jackson, Leader of the red-cockaded woodpecker recovery team, under contract to BLM. Elimination

of these lands from further consideration for surface mining will have no significant impact on the local economy or the local coal supply.

Application of Exceptions: No exceptions to this criterion were applied for this species in this area.

CRITERION 16: FLOODPLAINS

Federal lands in riverine, coastal, and special floodplains (100-year recurrence interval) shall be considered unsuitable unless, after consultation with the U.S. Geological Survey, the surface management agency determines that all or certain stipulated methods of coal mining can be undertaken without substantial threat of loss to people or property and the natural and beneficial values of the floodplain on the lease tract and downstream.

Exemptions: This criterion does not apply to lands: to which the operator made substantial financial and legal commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Application of the Criteria: Floodplain areas are identified on Map A. Without applying the exemption, no significant surface mining acreage is lost, since the potential for surface minable coal in the floodplain areas is low. No impact on the local economy or coal supply

will take place because no high- or moderate- potential surface coal lands are excluded through application of this criterion.

Application of Exemptions: These exemptions do not apply in the North Central Alabama planning area.

Refer to Map B for a description of the lands excluded by the unsuitability criteria after all exceptions were applied.

III. SURFACE OWNER CONSULTATION

A. Surface Owner Consultation in General

It is required by Section 714 of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) that all surface owners be consulted during land use planning, in order to obtain their opinion about the surface mining of federally-owned minerals under their property. The purpose of the consultations is to help develop sound land use plans, identify tracts for further consideration for leasing, and minimize disturbance to the surface owners. Before Federally-owned minerals under privately-owned surface can be leased, a "qualified" surface owner¹ must give his written consent to surface mining. The consultation and consent phases, however, are two distinct activities. Surface owner consultation is part of the land use planning effort--one factor among several used in reaching land use decisions. In this phase, the opinion of the surface owner is not construed as legally binding; even if the surface owner gives an "in favor" response during the consultation phase, he may change his mind later on. The consent phase, on the other hand, is one of the later stages of the leasing process and only applies to qualified surface owners who meet the Sec. 714 criteria. In this

¹/ Section 714 of SMCRA defines a qualified surface owner as persons or corporations who: 1) hold legal or equitable title to the land surface; 2) have their principal place of residence on the land; or personally conduct farming or ranching operations upon a farm or ranch unit to be affected by surface coal mining operations; or receive directly a significant portion of their income, if any, from such farming or ranching operations; and 3) have met the conditions of paragraphs 1) and 2) for a period of at least three years prior to the granting of the consent.

phase it is the responsibility of the mining industry to obtain surface owner consent before applying for a lease. Owner consent at this stage is legally binding.

B. Results of Consultation in North Central Alabama

To comply with the consultation mandate, and to identify tracts for further leasing consideration, the Tuscaloosa Office wrote to all surface owners in the North Central Alabama study area on January 9 and February 14, 1979, to obtain their opinion on the possible surface mining of Federal minerals on their property. In terms of acreage, surface owners of 88 percent of the land over Federal minerals are in favor of surface mining of Federal coal; five percent are opposed; four percent have no opinion at this time; four percent gave no response. Any individual who is a qualified surface owner under Section 714 of SMCRA, and who is part of the five percent definitely opposed to surface mining of their land, will no longer have his land considered for surface mining in this planning cycle. But negative opinions from those who are not qualified surface owners will only be used as an additional area selection factor, not a veto. The acreage covered by responses in the categories of "in favor," "no opinion," and "no response"--which includes 95 percent of the Federally-owned minerals--can continue to be considered in the coal leasing process, unless eliminated for other reasons.

The "no opinion" category is largely a reflection of the policy of some corporate surface owners to examine their properties on a

tract-by-tract basis before deciding to agree or not to agree to surface mining. BLM is continuing efforts to contact owners in the "no response" category.

Inasmuch as it is not yet known which land owners are actually qualified surface owners under Section 714 of SMCRA, none of the lands in the "opposed" category have been dropped from further consideration for surface mining at this time. The opinion expressed by these surface owners will be considered in the tract delineation and ranking processes.

The results of surface owner consultation are portrayed on Map C.

IV. MULTIPLE USE CONSIDERATIONS

A. Arriving at Multiple Use Decisions

During the land use analysis, BLM's minerals specialist in the Tuscaloosa Office developed a set of recommendations which would, based on existing data, maximize development of the mineral resource. Specialists in other resource activities then independently determined what resource values would be lost if surface mining were to occur.

The original minerals recommendations were then modified so that wildlife, recreation, cultural, social, and other values in danger of being lost could be adequately protected. The end result of the process was a series of multiple use decisions that permit mineral development in some areas, eliminate other areas from further mining consideration, or conditionally permit mining in others, providing certain stipulations are followed.

The final decisions for the North Central Alabama Land Use Analysis are given below, along with the rationale for reaching each decision. In several instances the decisions have been consolidated from the original document in order to save space and reduce redundancy.

B. Coal Development Potential

During the land use analysis process, discrete parcels of Federal minerals were ranked according to their development potential. The ranking was done to eliminate low potential areas during this land use planning cycle. The information may also be used later in the minerals activity planning stage of the coal leasing cycle.

The coal development potential of the Federal minerals in the study area was categorized as high, medium, or low, based on available coal data and the following criteria:

High Development Potential:

- 1) Areas with planned, current, or past coal production
- 2) Areas that are the subject of coal lease applications
- 3) Areas in which, historically, there has been industry interest in coal development

Medium Development Potential:

- 1) Areas between or adjacent to those areas with planned, current, or past coal production.

Low Development Potential:

- 1) Lands that do not meet the high or medium coal development criteria, but are within the overall coal-producing district. As additional data becomes available, parcels in the low potential category may be elevated to a higher category. This will occur at the time of the next scheduled planning update.

Under existing regulations, only those areas with high or medium development potential are to be considered for possible coal development during this planning cycle.

C. Coal Management Decisions Relating to Surface Mining

1. Decision: Carry forward for further consideration for surface coal leasing all areas designated "available" on Map F. This decision includes all coal with high or moderate development potential that is available or conditionally available following application of unsuitability criteria, surface owner consultation, and multiple use decisions.

Rationale: More than 90% of the total coal production of Alabama comes from the Warrior Coal Field. Of the total production in 1977, over 68 percent (15.3 million tons) was extracted by surface techniques. Recent revised estimates by the U.S. Department of Energy indicate that demonstrated reserves of 19.21 million tons of coal in Tuscaloosa County and 15.29 million tons in Fayette County are recoverable by surface mining methods. These two counties account for most of the coal in the Intensive Analysis Area. (Figures based on a 90% recovery rate.) Very little land suitable for surface mining is currently available to surface coal operators; the majority of the remaining surface-minable lands are tied up by coal companies, speculators, or lands acquisition interests. Under the new coal management regulations, the Department of the Interior could make lands available for lease exclusively to coal operators who could, conceivably, be forced out of business by the unavailability of strippable reserves. Surface coal resources should be developed as soon as possible in areas with a potential for underground mining. Under the right conditions, surface

and underground operations can take place simultaneously, but in order to avoid possible blasting, hydrologic, subsidence, and other problems, surface operations should be completed before underground operations.

2. The following decisions designate areas that are unacceptable for surface mining, based on multiple use constraints. These areas are portrayed on Map D.

2a. Decision: Do not surface mine Visual Resource Management (VRM) Class II Scenic Areas.

Rationale: These areas are very scenic, high in public sensitivity and generally close to the roadways of the area. Mining would be highly detrimental to the scenic quality of these areas because of the high visibility of disturbed areas during and immediately following mining. Several areas along highways 102, 13, and 69 would be adversely affected if mining were allowed to occur.

2b. Decision: Do not surface mine streams with an average annual flow of five cubic feet per second or higher and their associated riparian habitats (Streams and Wetlands--Map D).

Rationale: These areas are major contributors to the overall diversity of plant and animal species in the study area. They also serve as watering areas for wildlife species that are primarily

associated with upland habitats. The areas also hold high potential-- and to some extent are presently used--for canoeing, fishing, and other water-related activities. The lush vegetation along these areas improves the hydrologic regime by intercepting precipitation and retaining runoff, thereby reducing floodpeaks and sediment loads, and retaining waters after heavy spring rains.

2c. Decision: Do not surface mine in areas meeting the Office of Surface Mining (OSM) criteria for prime farmlands.

Rationale: In the study area, highly productive food and fiber lands such as these are especially scarce. Their naturally high productivity would be temporarily lost, and possibly lost or impaired permanently. Even if the topsoil replacement provisions of SMCRA are followed, it has not been conclusively show that this highly productive land can be fully restored to its present level of productivity. The decision therefore has been made to exclude prime farmlands from further consideration for leasing.

3. The decisions which follow identify areas conditionally acceptable for surface mining, providing certain stiuplations are met. These areas are indicated on Map E.

3a. Decision: Proposed Berry Lake is acceptable provided the proposal for construction of the lake is dropped or the mining can be completed prior to completion of the reservoir.

Rationale: The lake is only in the planning stages, and will not provide a critical water supply. Once inundated, the surface minable coal could not be mined.

3b. Decision: The Wolf Creek Wildlife Management area is acceptable, provided that close coordination between BLM and the Alabama Department of Conservation and Natural Resources takes place concerning what areas are mined and how they are reclaimed.

Rationale: The State of Alabama leases the area from cooperating surface owners for public hunting. If the decision were made to completely eliminate this area from minerals development, those land owners who would prefer to have their land mined might retaliate against the State by withdrawing their land from the management area, thereby reducing the amount of land available for public hunting and recreation. Close coordination between BLM and State officials is necessary in order to protect priority wildlife habitat and ensure that wildlife is considered in reclamation.

3c. Decision: Bottomlands associated with intermittent streams are acceptable, on condition that coal mining be given a low priority in the tract selection process.

Rationale: Although these streams are just stringers of riparian areas, as many of them should be protected as reasonably possible. These areas warrant protection because of the diversity of plant and

animal species found in them, productive alluvial soils, and because they provide watering areas for animals in dry, upland habitats.

3d. Decision: The five potential red-cockaded woodpecker areas on Map E are acceptable, provided these areas are surveyed for this species and none are found before mining.

Rationale: This decision was made because the Endangered Species Act of 1973 as amended in 1978 prevents the Federal government from approving projects that would adversely affect endangered species.

3e. Decision: Visual Resource Management Class III areas and Class IV areas in the foreground of heavily traveled highways are acceptable, under the condition that these areas be given moderate priority consideration in the tract selection process.

Rationale: These lands are visible from well-traveled routes, and surface mining would be considered an eyesore by many travelers. Stipulations requiring reclamation to pre-mining VRM classification standards can be imposed on a site-specific basis.

3f. Decision: The areas where ruffed grouse have been sighted are acceptable, on the condition that these areas are surveyed for this species before mining, and none are still found to occur there.

Rationale: The ruffed grouse is a very rare, protected game bird in Alabama. If there is a breeding population in the study area, it should be protected.

3g. Decision: All areas otherwise acceptable on the condition that a Class III cultural resource inventory is conducted at the time of mine plan submission, and that a cultural resource mitigation/avoidance program is developed and implemented prior to surface disturbance.

Rationale: Currently unrecorded cultural resource properties will be present, but the primary value of the majority lies in the data they contain, not in their preservation. Data recovery and avoidance are accepted forms of cultural resource mitigation.

3h. Decision: All lands otherwise acceptable, on the condition that adequate fugitive dust control is applied during mining, and all equipment has proper anti-pollution devices as required by EPA.

Rationale: Mining will cause an increase in total suspended particulates from dust and airborne pollutants from equipment exhaust.

D. Coal Management Decisions Relating to Underground Mining

During the land use analysis stage, no areas were assessed as unsuitable for underground mining. Unsuitability assessments, multiple-use considerations and other constraints will be applied at mine plan

stage. In general, because of the less severe environmental impacts of underground mining in the planning area, the decision has been made to encourage development of the underground minable coal resource. Each prospective lease tract will, of course, be addressed on a site-specific basis. In all cases where the surface effects of underground mining conflict with unsuitability criteria or multiple-use constraints, the criteria and constraints will be applied.

E. Other Minerals Management Decisions

1. Decision: Throughout the study area allow development of Federally-owned coal seams that demonstrate production potential through in-situ gasification or combustion techniques, when this can adequately be shown to be an acceptable method of utilizing the coal resources. The technique is not currently used in this area on an operational basis. Unsuitability criteria will be applied at the mine plan stage.

Rationale: This technique is largely experimental. Its impacts presently are not highly predictable. Site-specific variables require that unsuitability criteria and other environmental protection factors be applied at the mine plan stage.

2. Decision: Allow all types of coal exploration and support activities on Federal mineral ownership in the study area, provided they are consistent with State of Alabama and Federal regulations.

Rationale: All data obtained in coal exploration activities on federally-owned minerals must be made available to the Federal government. This data may be used in analyzing and evaluating Federal minerals potential in the study area, and in achieving a better understanding of the complex geology of the Warrior Coal Field. The coal industry must develop adequate coal, geologic, and engineering data for a given area before it can demonstrate that development is economically feasible in the area. Without this data, the coal companies will not be able to bid intelligently on potential Federal lease lands.

Coal exploration activities generally affect only a very small portion of the entire land area being evaluated. The environmental or other resource impacts are, in most cases, small or negligible when compared to surface disturbances caused by surface mining and some underground mining operations. Even should a resource conflict arise, exploration plans can usually be altered in order to mitigate or avoid potential problems. This means of data acquisition provides an inexpensive source of otherwise costly exploration data. Insufficient data is currently in the hands of the USGS and BLM to give reasonably accurate coal bed/tonnage/quality estimates of the coal potential under much of the Federal minerals ownership in the study area.

3. Decision: Investigate all unauthorized coal drilling on federally owned minerals in Alabama, and require that data obtained through such drilling be given to the BLM and USGS.

Rationale: All coal exploratory drilling on Federal coal lands requires a coal exploration license (as stated in the code of Federal Regulations, 43 CFR 3507). Numerous holes have been drilled-- in violation of 43 CFR 3507--on Federal mineral ownership in areas where data is badly needed by BLM's Tuscaloosa Office. Action by BLM to investigate this drilling and acquire the data should also act as a preventative measure for future unauthorized exploration.

4. Decision: Emphasize exploration and development of coal resources in the potential Berry Lake area (see Map E), and protect it from loss of coal resources due to construction of a municipal reservoir on North River, until the coal resources can be evaluated and, if possible, extracted. If there is a conflict then the amount of coal that might be lost can be determined and the coal can be removed, if necessary, prior to flooding, in accordance with Office of Surface Mining regulations and Alabama Water Improvement Commission regulations.

Rationale: The exact amount of the surface-minable coal resource is unknown. When this is determined, the figures may influence the building of the proposed reservoir.

5. Decision: Investigate, evaluate, and resolve all possible unauthorized use or removal of Federal minerals.

Rationale: The actions are required by law and regulations. Numerous instances of unauthorized removal of Federal coal have

been discovered in the study area by Tuscaloosa Office staff. These should be promptly and efficiently investigated and resolved. Potential future trespass will be deterred.

6. Decision: Make all possible efforts to inform landowners in the study area that Federal minerals under their surface may include valuable reserves of coal, and request that they take this into consideration before devoting the land to activities that might prevent surface and/or underground coal mining.

Rationale: Buildings or other improvements may be constructed over Federal minerals, precluding or inhibiting the development of the minerals. If the improvements can be built in a non-mineral area, or deferred until the minerals are removed, the mineral resource can be used.

7. Decision: Develop oil and gas in those areas of Federal mineral ownership that are within the limits of natural gas fields (as officially designated by the State of Alabama Oil and Gas Board). These areas are designated MOG-1, 2, and 3 in the full text of the Land Use Analysis. The legal descriptions of the MOG tracts are as follows:

MOG 1 SW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 32, T. 14 S., R. 11 W.

MOG 2 NW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 33, T. 14 S., R. 11 W.

MOG 3 SE $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 20, T. 16 S., R. 11 W.

MOG 4 SE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 2, T. 18 S., R. 9 W.
 NE $\frac{1}{4}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 3, T. 18 S., R. 9 W.
 NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 34, T. 17 S., R. 9 W.

Rationale: These areas should be developed as they are within designated natural gas fields. Should we not develop, it could hold up a well which would tap 320 acres. Since Alabama is a net importer of natural gas, making these areas available should help alleviate this situation.

8. Decision: Hold up the development of oil and gas area MOG-4 (see legal description above) until coal resources on the same lands are removed or declared unsuitable for development, provided this will be in compliance with State law covering forced integration of gas fields.

Rationale: Considerable coal will be lost (possibly permanently) if the gas and oil are developed first. This will not occur if the gas and oil are developed after the coal.

9. Decision: Allow continued exploration, leasing, and development of all Federal gas and oil resources within the study area.

Rationale: Continued development of oil and gas will have a very low impact upon the area, due to the method of mineral extraction and the small areas of this type of Federal ownership.

F. Other Considerations

Several other resources not discussed above were considered before the decisions were made to bring forward any lands for future consideration for surface mining.

1. Recreation: Many existing and potential recreation areas were inventoried and considered when making each decision. Since the surface over the Federal minerals considered in the Land Use Analysis is all privately owned, BLM has no direct responsibility for management of existing or potential recreation areas. Whether or not many of the potential recreation areas will be developed for the public, no lands were excluded solely because of their recreational values. Recreation values (canoeing, floatboating, and other water-related activities) did influence the decision to exclude the larger streams in the area from surface mining.

2. Forestry: The forest resources in the planning area were inventoried and considered before minerals management decisions were made. Three major factors influenced the decision not to exclude lands at this time from further consideration for surface mining because of forest resources: 1) the majority of forest lands over Federal minerals are not being utilized at their fullest commercial potential; 2) with the reclamation technology presently available, those areas that are surfaced mined can be reclaimed into timber production soon after mining; and 3) 73 percent of the planning area is forested, so there is no shortage of commercial timberland.

3. Threatened and Endangered Plants: The Bureau of Land Management is mandated to protect all federally-listed endangered plants and their habitat. Areas of Federal minerals ownership are now being inventoried for threatened and endangered plants. If any are located, the area in which they are found will be dropped from further consideration for surface mining.

4. Socio-Economic Values: Socio-economic values were weighed heavily before making decisions on which lands would receive further consideration for surface mining. Most of the economic impacts foreseen from surface mining in the planning area are positive, i.e., increase and maintenance of support and service industries, and increased employment and revenues to local, State, and Federal governments. Social impacts will be both positive and negative. Positive impacts include increased employment and income, and negative impacts include safety hazards resulting from coal haulage, possibly decreased water quality and quantity in wells and streams, and a change in the lifestyles of rural residents. In all cases, it was decided that the positive socio-economic aspects of coal mining in the study area outweighed negative aspects, and no lands were excluded from surface mining because of socio-economic factors.

G. Available Data

A great deal of data was collected during the course of the Land Use Analysis and is available for public inspection and use. Studies have been completed on a wide range of subjects, including surface water

hydrology, soils, socio-economic profile of the planning area, threatened and endangered plants and animals, cultural resources, visual resources and many other subjects. Contracts currently underway include: geophysical analysis of overburden in the Warrior coal basin, soil characterization with respect to reclaimability, modeling of the hydrologic impacts of surface mining, and several others.

In addition to these studies, the resource specialists in Tuscaloosa Office prepared Inventories, Unit Resource Analysis, and Values at Risk studies for their respective resources. These studies, and all research relating to the North Central Alabama Land Use Analysis, can be examined at the Tuscaloosa Office, at the address appearing inside the front cover of this summary.

V. LANDS BROUGHT FORWARD FOR FURTHER CONSIDERATION FOR SURFACE COAL LEASING

Map F shows all areas of Federal mineral ownership which are considered suitable for further consideration for surface coal leasing. These areas comprise the "bottom line" of the Land Use Analysis in North Central Alabama. Areas delineated on this map have withstood the application of the unsuitability criteria, the surface owner consultation process (thus far), and the multiple-use analysis/tradeoff process. Not all of these lands will necessarily be leased or mined, but they may be considered further in the management program for surface mining of coal.

In the course of the Land Use Analysis, no lands were designated unsuitable for underground mining. Determinations regarding underground mining cannot be made until the surface effects of a particular mine plan in a specific area can be assessed. The Bureau's coal management program provides for these determinations at the time of mine plan submission.

VI. UPCOMING STAGES IN FEDERAL COAL MANAGEMENT IN NORTH CENTRAL ALABAMA

The North Central Alabama Land Use Analysis was the first step taken in Alabama toward implementation of the Secretary of the Interior's new Federal coal management program. The land use analysis was held to the following standards, which appeared among the new coal regulations published on July 19, 1979, in the Federal Register:

"In order to qualify as the basis for issuing a lease, the comprehensive land use plan or land use analysis shall have:

- (i) considered a range of present and potential resource values and uses in accordance with the principles of multiple use and sustained yield;
- (ii) used necessary professional disciplines in the analysis of resource development proposals;
- (iii) identified critical environmental areas, if any;
- (iv) reflected available, relevant data commensurate with anticipated conflicts in values and potential uses, and with likely levels and impacts of such uses;
- (v) developed and analyzed alternative proposals for multiple resource development and use;
- (vi) analyzed the significance of values that would be affected by proposed actions in terms of local, regional and national perspectives, consistent with agency directives; and
- (vii) been formulated in consultation with appropriate state and local governments and agencies and with the opportunity for public

participation, including a public hearing if requested by an adversely affected party."

Having read this summary document, the reader will note that the North Central Alabama Land Use Analysis touched upon all points required in the new regulations. If this is not sufficiently clear based on the summary, it is hoped the reader will examine the full text of the Land Use Analysis, available for inspection at the Tuscaloosa and Eastern States Offices.

The objective of the new coal program is to improve the management of Federal coal resources and to operate a coal leasing program capable of responding to national and regional production goals. To meet this objective, the following additional phases of the program will be undertaken:

Activity Planning: Activity planning for coal in the planning area will follow completion of the Land Use Analysis. Coal resource activity planning will be conducted by BLM and will involve the delineation, ranking, selection, and scheduling of tracts for lease sale. These will be drawn from the lands identified as acceptable for further consideration for leasing. Tract identification and analysis will include expressions of interest from industry, and recommendations from other Federal agencies and State and local governments. Tract ranking, selection and scheduling will be conducted in close coordination with the Governors of the states comprising the coal region, and in

consultation with all affected Federal land management agencies and other Federal or State agencies with relevant expertise.

Regional Production Goals and Leasing Targets: The major coal bearing areas of the country have been divided into 12 coal regions. The North Central Alabama planning area is located in the Southern Appalachian coal region. Under the Federal coal management program, each coal region will be managed as a separate coal production unit. Within each of these regions, a total regional production goal and a regional leasing target for Federal coal will be developed, based on an assessment of new leasing needs.

These regional production goals and leasing targets will be determined every two years by the Department of the Interior, based in part on projections made by the Department of Energy, with input from State governments and the public. A four-year lease sale schedule will then be developed, based on these targets.

Regional Environmental Impact Statements: To comply with the requirements of the National Environmental Policy Act of 1969, a regional environmental impact statement (EIS) will be prepared for areas to be affected by the four-year lease sale schedules in each coal production region. The EIS that will include the North Central Alabama study area is the Southern Appalachian Regional Environmental Statement. The writing of this statement is scheduled to begin late in the fall of 1979, and is tentatively scheduled for completion early in 1981.

Each regional EIS will include analysis of both the site-specific and intraregional impacts of the proposed leasing actions. The regional leasing target, the tract delineation and ranking process, the proposed selection of tracts to be leased, and the proposed lease sale schedule will be included in the EIS.

New production goals and leasing targets will be established in approximately two years, and new tract rankings and sales schedules formulated. If significant changes are proposed, a supplement to the EIS will be prepared.

After two more years, a new four-year lease sale schedule will be developed, and new regional environmental statements will be prepared for the new schedule.

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